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</tr>
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</tr>
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</tr>
</tbody>
</table>
Range of Global Diversity
(Marine and Terrestrial)

65 mya
extinction of large reptiles
mammal radiation begins
angiosperm plants dominate

135–180 mya
birds appear
reptiles rule land, air, and sea
mammals appear
angiosperm plants appear

180–225 mya
cycad-like and conifer trees dominate
mammal-like reptiles appear
early dinosaurs appear

225–280 mya
reptiles radiate
coniferous trees radiate and modernize

280–345 mya
reptiles appear
amphibians and insects radiate
coniferous trees appear

345–395 mya
amphibians appear
trees and forests appear
insects appear
first bony fish appear
land plants radiate

395–435 mya
land plants appear
arthropods invade land
jawed fish appear
armoured fish dominate

435–500 mya
vertebrates appear
armored jawless fish appear
shell-bearing marine invertebrates dominate

500–570 mya
shell-bearing animals appear
marine invertebrates radiate
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Alberta Education Field Test Schools

Battle River Regional Division No.31: Camrose Composite High School

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Chinook’s Edge School Division No.73: Spruce View School

East Central Alberta Catholic Separate Schools Regional Division No.16: St. Jerome’s School

Edmonton Catholic Separate School District No.7: Archbishop O’Leary, St. Francis Xavier

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Grande Prairie School District No.2357: Grande Prairie Composite High School

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Thomson Nelson Field Test Schools

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Medicine Hat School District No.76: Crescent Heights High School

Parkland School Division No.70: Spruce Grove Composite High School

Peace River School Division No.10: Grimshaw Junior Senior High School

Pembina Hills Regional Division No.7: Barrhead Composite High School, Fort Assiniboine School, Richard F. Staples Secondary School

Red Deer Catholic Regional Division No.39: Notre Dame High School

Red Deer Public School District No.104: Hunting Hills High School

Rocky View School District No.41: Bert Church High School, Bow Valley High School

Sturgeon School Division No.24: Sturgeon Composite

Wolf Creek School Division No.72: Lacombe Composite High School, Rimbey Junior Senior High School
<table>
<thead>
<tr>
<th>CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Guide to this Textbook</td>
</tr>
<tr>
<td>Unit 20 A Energy and Matter Exchange in the Biosphere</td>
</tr>
</tbody>
</table>

*Are You Ready?*

**Chapter 1 The Biosphere as a Closed System**
- Exploration: Earth under a Microscope
- Equilibrium in the Biosphere
- Web Activity: Canadian Achievers—Dr. David Suzuki
- Equilibrium Unbalanced
- Web Activity: Web Quest—Creating a Database of At-Risk Species
- Explore an Issue: What Is the Value of Wolves?

**Chapter 1 Summary**

**Chapter 1 Review**

**Chapter 2 Energy Flow in the Biosphere**
- Exploration: Competition between Plants
- Energy Transfer and Food Webs
- Web Activity: Web Quest—Designing Food Webs
- Scientific Models

**Chapter 2 Investigations**
- Investigation 2.1: Constructing Food Webs
- Investigation 2.2: Light Intensity and Plant Biomass

**Chapter 2 Summary**

**Chapter 2 Review**

**Chapter 3 The Cycling of Matter in the Biosphere**
- Exploration: Recycling Matter
- The Hydrological Cycle
- Web Activity: Web Quest—Pesticides: Pro or Con?
- The Carbon Cycle and the Oxygen Cycle
- Lab Exercise 3.A: Carbon Dioxide Production by Plants and Animals
- Case Study: Technological Solutions for Global Warming
- Web Activity: Case Study—Biosphere 2
- The Nitrogen Cycle and the Phosphorus Cycle
- Web Activity: Case Study—Persistent Pesticides and Matter Flow

**Chapter 3 Investigations**
- Investigation 3.1: Nutrient Cycling and Plant Growth
- Investigation 3.2: The Albedo Effect
- Investigation 3.3: Environmental Models
- Investigation 3.4: Phosphate Identification

**Chapter 3 Summary**

**Chapter 3 Review**

**Unit 20 A Review**

---

**Unit 20 B Ecosystems and Population Change**

*Are You Ready?*

**Chapter 4 Characteristics of Ecosystems**
- Exploration: Establishing Ecosystems in Space
- Interactions within Ecosystems
- Web Activity: Canadian Achievers—Mary Thomas
- Case Study: Natural and Artificial Ecosystems
- Web Activity: Case Study—The Zebra Mussel
- Explore an Issue: Genetically Modified Crops

**Chapter 4 Investigations**
- Investigation 4.1: A Schoolyard Ecosystem
- Investigation 4.2: A Forest Ecosystem
- Investigation 4.3: Biological Oxygen Demand and Organic Pollutants
- Investigation 4.4: Biological Indicators of Pollution in Streams

**Chapter 4 Summary**

**Chapter 4 Review**

**Chapter 5 Evolution**
- Exploration: Curiosity Generates Questions
- Classification of Organisms
- Evidence of a Changing Earth
- Web Activity: Case Study—Finding Fossils and Famous Footprints
- 5.3 Evidence of Evolution from Biology
- Lab Exercise 5.A: Evidence from Genetics
- Web Activity: Case Study—Were Neanderthals Humans?
- The Making of a Theory—Accounting for the Evidence
- Sources of Inherited Variation
- Speciation and Evolution
- Web Activity: Case Study—Lactose Intolerance and Evolution
- Web Activity: Simulation—Natural Selection

**Chapter 5 Investigations**
- Investigation 5.1: Using a Classification Key
- Investigation 5.2: Measuring Inherited Variation

---

Table of Contents
Chapter 5 Summary 166
Chapter 5 Review 168
Unit 20 B Review 170

Unit 20 C Photosynthesis and Cellular Respiration 174

Are You Ready? 176

Chapter 6 Photosynthesis 178
- Exploration: Global Photosynthesis in Action 179
  6.1 Chloroplasts and Photosynthetic Pigments 180
  • Case Study: Using Satellite and Airborne Technology to Monitor Photosynthesis and Productivity 184
  6.2 The Reactions of Photosynthesis 186
  • Web Activity: Canadian Achievers—Dr. Rudolph Arthur Marcus 192
  • Explore an Issue: Harnessing Light Energy 192
  • Web Activity: Web Quest—Factors Affecting Photosynthesis 194

Chapter 6 Investigations
- Investigation 6.1: Separating Plant Pigments from Leaves 195
- Investigation 6.2: How Does Carbon Dioxide Concentration Affect the Rate of Photosynthesis? 197

Chapter 6 Summary 199
Chapter 6 Review 200

Chapter 7 Cellular Respiration 202
- Exploration: Clothespins and Muscle Fatigue 203
  7.1 The Importance of Cellular Respiration 204
  • Web Activity: Simulation—ATP in Action 206
  7.2 Glycolysis 210
  • Web Activity: Simulation—Respiration in Motion 212
  7.3 Aerobic Cellular Respiration 213
  7.4 Anaerobic Cellular Respiration 221
  • Explore an Issue: Aerobic versus Anaerobic Waste Treatment 223

Chapter 7 Investigations
- Investigation 7.1: Measuring Oxygen Consumption in Germinating Seeds 229

Chapter 7 Summary 231
Chapter 7 Review 232
Unit 20 C Review 234

Chapter 8 Nutrients, Enzymes, and the Digestive System 240
- Exploration: Canada’s Food Guide to Healthy Eating 241
  8.1 Essential Nutrients 242
  • Case Study: Fats and Health 248
  • Explore an Issue: Irradiation Technology 252
  8.2 Enzymes 254
  8.3 Ingestion 259
  • Explore an Issue: Fad Diets 262
  • Web Activity: Web Quest—What are You Eating? 263
  8.4 Digestion 264

Chapter 8 Investigations
- Investigation 8.1: Identifying Carbohydrates 271
- Investigation 8.2: Identifying Lipids and Proteins 272
- Investigation 8.3: Factors that Affect the Catalase Enzyme Reaction 274
- Investigation 8.4: Effect of pH and Temperature on Starch Digestion 275

Chapter 8 Summary 277
Chapter 8 Review 278

Chapter 9 Respiratory System and Motor System 280
- Exploration: Making a Model of the Chest Cavity 281
  9.1 The Importance of an Oxygen Delivery System 282
  9.2 Gas Exchange and Transport 288
  • Explore an Issue: Using Erythropoietin to Increase Oxygen-Carrying Capacity 290
  9.3 Regulation of Breathing Movements 292
  • Web Activity: Canadian Achievers—Dr. Malcolm King 294
  • Web Activity: Simulation—Asthma 295
  • Case Study: Smoking and Lung Cancer 295
  • Web Activity: Web Quest—Smokeless Tobacco 297
  9.4 Muscles 298

Chapter 9 Investigations
- Investigation 9.1: Determining Lung Capacity 305
- Investigation 9.2: The Effects of Exercise on Lung Volume 306
- Investigation 9.3: The Effects of Muscle Activity on Body Temperature 306

Chapter 9 Summary 307
Chapter 9 Review 308

Chapter 10 Circulatory System 310
- Exploration: Listening to Heart Sounds 311
  10.1 Blood Vessels 312
  10.2 The Heart 319
  • Explore an Issue: Growing a New Heart 321
  • Web Activity: Simulation—Observing the Movement of Blood through the Heart 322
  • Case Study: Diagnosing Heart Conditions 324
# Table of Contents

## Chapter 10 Blood Flow
- Regulation of Blood Flow
  - 10.3 Regulation of Blood Flow
  - 10.4 Capillary Fluid Exchange

### Chapter 10 Investigations
- 10.1 Fetal Pig Dissection
- 10.2 Effects of Posture on Blood Pressure and Pulse
- 10.3 Effects of Exercise on Blood Pressure and Pulse

### Chapter 10 Summary
- Chapter 10 Review

## Chapter 11 Blood and the Immune System
- Exploration: Tracing an Infection
  - 11.1 Components of Blood
    - Web Activity: Simulation — Blood Typing
  - 11.2 The Body's Lines of Defence
    - Case Study: Bovine Spongiform Encephalopathy
    - Web Activity: Simulation — Virtual Immunology Laboratory
  - 11.3 Malfunctions of the Immune System
    - Explore an Issue: The Future of Stem Cell Research

### Chapter 11 Investigations
- 11.1 Diagnosing Disease by Examining Blood Cells

### Chapter 11 Summary
- Chapter 11 Review

## Chapter 12 Excretory System
- Exploration: Making a Model of a Filtering Excretory System
  - 12.1 Waste Excretion and Internal Equilibrium
    - Web Activity: Simulation — Kidney Function
  - 12.2 Kidney Dysfunction
    - Explore an Issue: Xenotransplants

### Chapter 12 Investigations
- 12.1 Do Sports Drinks Really Work?
- 12.2 Diagnosis of Kidney Disorders

### Chapter 12 Summary
- Chapter 12 Review

## Chapter 13 Nervous System
- Exploration: Stimulus and Response in Invertebrates
  - 13.1 The Importance of the Nervous System
  - 13.2 Electrochemical Impulse
    - Case Study: Drugs and the Synapse
    - 13.3 The Central Nervous System
    - Web Activity: Web Quest—Spinal Cord Research
    - Web Activity: Canadian Achievers—Dr. Wilder G. Penfield
  - 13.4 The Peripheral Nervous System
    - Case Study: Phineas Gage
    - Web Activity: Case Study—Neuroimaging

### Chapter 13 Investigations
- 13.1 Reflex Arcs
- 13.2 Brain Dissection

### Chapter 13 Summary
- Chapter 13 Review

## Chapter 14 The Senses
- Exploration: Detecting Temperature Changes
  - 14.1 Sensory Information
  - 14.2 The Structure of the Eye
    - Web Activity: Simulation — Principal Features of the Eye
    - Web Activity: Case Study—Corneal Surgery
  - 14.3 Hearing and Equilibrium
    - Web Activity: Simulation—Ear Structure and Function

### Chapter 14 Investigations
- 14.1 Mapping Sensory Receptors
- 14.2 Eye Dissection
- 14.3 Hearing and Equilibrium

### Chapter 14 Summary
- Chapter 14 Review

## Chapter 15 Endocrine System
- Exploration: Chemical Signals and Sports
  - 15.1 Homeostasis, Hormones, and the Endocrine System
  - 15.2 Hormones That Affect Blood Sugar
    - Web Activity: Canadian Achievers—Banting and Best
    - Web Activity: Web Quest—Diabetes
    - Lab Exercise 15.A: Effects of Hormones on Blood Sugar Levels
  - 15.3 Hormones That Affect Metabolism
  - 15.4 Hormones Affecting Water and Ion Balance
    - Web Activity: Case Study—Homeostasis and Space Travel
  - 15.5 Adjustments to Stress
    - Explore an Issue: Protecting Athletes

### Unit 30 A Nervous and Endocrine Systems
- Are You Ready?
**Chapter 15 Investigations** 498
- Investigation 15.1: Identification of Hyperglycemia 498

**Chapter 15 Summary** 500

**Chapter 15 Review** 501

**Unit 30 A Review** 503

---

**Unit 30 B Reproduction and Development** 506

Are You Ready? 508

**Chapter 16 Reproduction and Development** 510
- Exploration: Comparing Gametes 511
  - 16.1 The Male Reproductive System 512
    - Lab Exercise 16.A: Understanding the Regulation of Male Sex Hormones 518
  - 16.2 The Female Reproductive System 520
    - Web Activity: Simulation—Structures of the Female Reproductive System 521
    - Web Activity: Case Study—Tubal Ligation 523
    - Lab Exercise 16.B: Hormone Levels during the Menstrual Cycle 527
  - 16.3 Fertilization, Pregnancy, and Birth 530
    - Web Activity: Simulation—The Visible Embryo 535
    - Web Activity: Canadian Achievers—Dr. Keith Bagnall 536
    - Explore an Issue: Fetal Alcohol Spectrum Disorder 538
    - Web Activity: Web Quest—Fetal Rights and FASD 539
    - Web Activity: Case Study—Comparing Life Cycles of Plants 539
  - 16.4 Abnormal Meiosis 582
    - Web Activity: Canadian Achievers—Dr. Renée Martin 582
    - Web Activity: Web Quest—Modelling Mitosis and Meiosis 586

**Chapter 17 The Basis of Heredity** 596
- Exploration: Similarities and Differences 597
  - 18.1 Gregor Mendel—Pioneer of Genetics 598
  - 18.2 Probability and Inheritance of Single Traits 601
    - Web Activity: Case Study—Creating a Personal Profile 602
  - 18.3 Pedigree Charts 605
    - Explore an Issue: Genetic Screening 606
    - Web Activity: Simulation—Pedigree Analysis 607
  - 18.4 Other Patterns of Inheritance 608
    - Case Study: A Mystery of Blood Types 611
    - Dihybrid Crosses and Polygenic Traits 613
    - Explore an Issue: Drought—Tolerant and Salt—Tolerant Plants 618

**Chapter 18 Beyond Mendel** 626
- Exploration: Inherited Traits 627
  - 19.1 Chromosomes and Genetics 628
    - Lab Exercise 19.A: Tracing the Hemophilia Gene 632
    - Explore an Issue: Screening for Genetic Disorders 633
    - Web Activity: Simulation—Amniocentesis 633
  - 19.2 Gene Linkage and Crossover 635
  - 19.3 DNA Is the Hereditary Material 642

---

viii  Table of Contents
Table of Contents

Chapter 19 Investigations
652
  • Investigation 19.1: Sex-Linked Traits
  • Investigation 19.2: Isolation and Quantification of DNA

Chapter 19 Summary
656
Chapter 19 Review
657

Chapter 20 Molecular Genetics
660
  • Exploration: The Size of the Genome
20.1 DNA Structure and Replication
  • Web Activity: Simulation—DNA Replication
  • Lab Exercise 20.A: Synthesis of a Protein
20.2 Gene Expression
  • Web Activity: Canadian Achievers—Researchers in Human Genetic Disorders
  • Web Activity: Case Study—Transformation of Eukaryotes
20.3 DNA and Biotechnology
  • Web Activity: Simulation—Electrophoresis
  • Web Activity: Canadian Achievers—Isolation and Quantification of DNA
20.4 Mutations and Genetic Variation
  • Case Study: Gene Mutations and Cancer
  • Lab Exercise 20.B: Looking for SINEs of Evolution
Chapter 20 Investigations
695
  • Investigation 20.1: Protein Synthesis and Inactivation of Antibiotics
  • Investigation 20.2: Restriction Enzyme Digestion of Bacteriophage DNA
Chapter 20 Summary
700
Chapter 20 Review
702
Unit 30 C Review
705

Unit 30 D Population and Community Dynamics
710

Are You Ready?
712

Chapter 21 The Genetic Basis for Population Change
714
  • Exploration: Distinguishing Traits
21.1 The Hardy–Weinberg Principle
  • Web Activity: Case Study—Global Variation in Blood Type
  • Explore an Issue: Are Human “Races” Only Skin Deep?
  • Web Activity: Simulation—Hardy–Weinberg

Chapter 21 Investigations
731
  • Investigation 21.1: Agents of Change

Chapter 21 Summary
733
Chapter 21 Review
734

Chapter 22 Population Changes
736
  • Exploration: Moving Populations
22.1 Characteristics of Populations
  • Web Activity: Canadian Achievers—Dr. Stephen Herrero
  • Web Activity: Case Study—Wildlife Tracking
22.2 Measuring and Modelling Population Change
22.3 Factors Affecting Population Change
  • Explore an Issue: Carrying Capacity Changes in a Warm Arctic
Chapter 22 Investigations
758
  • Investigation 22.1: Measuring Population Changes

Chapter 22 Summary
759
Chapter 22 Review
760

Chapter 23 Population Interactions
762
  • Exploration: Effects and Consequences
23.1 Interactions within Communities
  • Web Activity: Case Study—Gause’s Principle
  • Web Activity: Case Study—Elk Management in Banff National Park
  • Lab Exercise 23.A: Predator–Prey Cycles
  • Web Activity: Web Quest—Zebra Mussels
23.2 Succession
  • Web Activity: Case Study—Wildfires and Succession
Chapter 23 Investigations
776
  • Investigation 23.1: Plant Opposition: Intraspecific and Interspecific Competition
  • Investigation 23.2: Microbial Succession

Chapter 23 Summary
779
Chapter 23 Review
780
Unit 30 D Review
782

Appendices
788
Glossary
828
Index
845
Credits
853
Your Guide to this Textbook

Each unit begins with a two-page set of questions: Are You Ready? These questions will help you assess which concepts you should review before you begin the unit.

A Case Study provides you with information or data, and then guides you in analyzing, decision making, or problem solving by a series of questions.

In an Explore an Issue feature, you have the opportunity to define, research, analyze, and report on issues affecting our planet. The Issue Checklist shows you the parts of the decision-making process you will need to complete.

Sample Exercises guide you step-by-step through a solution.

You will have many opportunities throughout each unit for practice and review. Practice questions are found after all Sample Exercises and at other points throughout the chapter, and will help you to assess your understanding as you work.

You can review and demonstrate your understanding of the concepts and skills in each section using the Summaries and Section Questions.

The Chapter Review gives you practice in answering questions similar to those on the Alberta Diploma Exam. Appendix A5 provides diploma exam tips and Appendix D contains numerical answers and short answers for questions throughout your textbook.
Preparation for Alberta Diploma Exams

We hope that your interest in science will grow and deepen as you work through your Biology course with the aid of this textbook. As your knowledge, skills, and attitudes develop, you will also be working toward the Biology Diploma Exam. This resource has been developed to help you achieve your best on the Alberta Biology 30 Diploma Exam. Appendix A5 provides specific tips on writing the exam. Part 1 of the Chapter and Unit Reviews contain multiple choice and numerical response questions like you will find on the Diploma Exam. The numerical response questions are marked with this icon. Your teacher can provide you with additional questions we have provided to her/him. The Case Studies provide practice in answering closed-response written questions. In completing an Explore an Issue, you will develop skills for answering open-response written questions on the Diploma Exam. Here you will find and read information about a science-related issue and then formulate and communicate your ideas, supported by your research. You will apply these skills to the written-response (Part 2) questions in the Chapter Reviews and Unit Reviews, and in the additional Diploma Exam-style Review Questions on the Nelson Web site. These questions are longer scenario-based questions, sometimes using published articles. In the Chapter and Unit Review, this icon indicates a question that is in the format of a Diploma Exam written-response question.